Appl. No. 10/786,921
Amdt. dated September 25, 2006
Reply to Office Action of June 28, 2006

Atty. Ref. 88537.0030
Customer No. 26021

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-21. (Canceled)

22. (Currently amended) A method for calibrating a local oscillator, comprising a plurality of voltage controlled oscillators, integrated on a single semiconductor chip for use in a broadband tuner, comprising the steps of:

selecting an initial frequency;

checking a lock detect output of a phase-locked loop iteratively for frequencies above and below the initial frequency to determine a lower edge and an upper edge of a set of frequencies to which a current voltage controlled oscillator can be tuned; and

performing said selecting and checking steps for each voltage controlled oscillator;

calculating breakpoints between each voltage controlled oscillator from a set of upper and lower edges thereby minimizing the probability of one of the voltage controlled oscillators being used to tune to a frequency near either the upper or lower edge of that voltage controlled oscillator's tuning range; and

generating a look-up table for identifying which voltage controlled oscillator to use given a specified carrier frequency.

23. (Original) The method of claim 22, wherein said checking step is performed using a binary search algorithm.

24. (Original) The method of claim 23, wherein the binary search uses an initial step size between ten and fifty percent of the predicted bandwidth of the current voltage controlled oscillator.

25. (Original) The method of claim 22, wherein said selecting step uses a predicted center frequency for the current voltage controlled oscillator.

26-27. (Canceled)

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28. (Currently amended) The method of claim ~~27~~ 22, wherein said generating step further comprises generating a set of divide ratios to apply to an output of the local oscillator for inclusion in the look-up table.

29. (Currently amended) ~~The~~ A method ~~of claim 26~~ for calibrating a local oscillator, comprising a plurality of voltage controlled oscillators, integrated on a single semiconductor chip for use in a broadband tuner, comprising the steps of:

selecting an initial frequency;

checking a lock detect output of a phase-locked loop iteratively for frequencies above and below the initial frequency to determine a lower edge and an upper edge of a set of frequencies to which a current voltage controlled oscillator can be tuned;

performing said selecting and checking steps for each voltage controlled oscillator; and

calculating breakpoints between each voltage controlled oscillator from a set of upper and lower edges thereby minimizing the probability of one of the voltage controlled oscillators being used to tune to a frequency near either the upper or lower edge of that voltage controlled oscillator's tuning range,

wherein said calculating step further comprises calculating breakpoints for at least one pseudo voltage controlled oscillator.

30. (Original) The method of claim 29, further comprising the step of:

generating a look-up table for identifying which voltage controlled oscillator to use, and a divide ratio to apply to an output of the local oscillator, given a specified carrier frequency.

31. (Original) The method of claim 22, wherein the method is performed once at start-up.

32. (Canceled)